

WHAT IS CLAIMED IS:

1. A pharmaceutical composition for ophthalmologic uses comprising a complementary peptide having a sequence 5 complementary to proline-glycine-proline (PGP).

2. The pharmaceutical composition of claim 1, wherein 10 said complementary sequences are designed based on the coding triplet for proline and glycine and on the hydropathic value of proline and glycine.

3. The pharmaceutical composition of claim 1, wherein 15 said complementary peptide is selected from the group consisting of RTR, RTRGG, RTR dimer, RTR tetramer, RTR octamer, N-acetyl-RTR multimer, short chain and long chain fatty acid RTR multimer, RTR multimer using diaminopropionic acid for the core subunit, RTR multimer using diaminobutyric acid for the core subunit, RTR multimer containing a spacer having the formula $\text{NH}_2[\text{CH}_2]_n\text{-COOH}$ 20 [n=2[3-aminopropionic acid]....7[8-aminocaprylic acid]], said spacer

replacing the diglycine spacer, cysteine RTR multimer having a bicyclic structure, and XTR multimer with N-terminal modifications and core subunit modifications, wherein said complementary peptides have dextrorotatory amino acids substituting for the natural 5 levorotatory.

4. A method of inhibiting polymorphonuclear leukocyte polarization, chemotaxis and infiltration into tissue activated by a neutrophil 10 chemoattractant in an individual, comprising the step of:

administering the pharmaceutical composition of claim 1 to said individual so as to inhibit polymorphonuclear leukocyte infiltration into tissue.

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5. The method of claim 4, wherein said neutrophil chemoattractant is selected from the group consisting of N-acetyl- 20 PGP, N-acetyl-PGX, N-methyl-PGX, N-methyl-PGP and small peptide chemoattractants containing proline and glycine.

6. The method of claim 4, wherein said pharmaceutical composition is administered at a concentration range of from about 1 μ M to about 100 mM, depending on the peptide.

5 7. A method of treating an eye disease in an individual, comprising the step of:
administering the pharmaceutical composition of claim 1 to said individual.

10 8. The method of claim 7, wherein said pharmaceutical composition is administered at a concentration range of from about 1 μ M to about 100 mM, depending on the peptide.

15 9. The method of claim 7, wherein said eye disease is selected from the group consisting of alkali-injured eye, chemically injured eyes and inflammatory disease of the eye.

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